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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,093

05/12/2006

Koichi Sato

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03/05/2010

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EXAMINER

BEL'YAEV', YANA

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,093	<b>Applicant(s)</b> SATO ET AL.	
	<b>Examiner</b> YANA BELYAEV	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/1/09 has been entered.

### ***Response to Arguments***

1. Applicant's arguments with respect to Kabushiki, US Patent Application 2006/0281870, and Okuda have been considered but are moot in view of the new ground(s) of rejection.

While US Patent Application 2006/0281870 and Okuda are both still applied in the current rejection, they are not relied upon for what the Applicant was arguing in the response dated 1 December 2009, specifically Sato is not relied upon for teaching the repeating unit structure of the block polymer and Okuda is not relied upon for teaching a three-dimensional basic pattern by a thermal stimulus and then forming a base of the three-dimensional pattern by an electromagnetic wave stimulus.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application 2002/0180854 (Sato hereinafter) in view of JP 2003-345828 (Nakazawa hereinafter) in further view of US Patent Application 2003/0122889 (Okuda hereinafter).

US Patent Application 2006/0281870 is used as a translation for JP 2003-345828. All citations refer to US Patent Application 2006/0281870.

**Regarding claim 16**, Sato discloses a process for ejecting liquid droplets on a recording medium to produce a high quality image (abstract), which comprises the steps of:

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preparing plural kinds of liquid compositions each comprising a block polymer having a polyoxyalkylene repeating structure (paragraph 65) and a liquid medium, namely water (paragraph 129);

ejecting a first of the plural kinds of liquid compositions to apply the liquid composition to a recording medium (paragraph 62);

imparting a thermal stimulus, specifically temperature change, to the applied liquid composition to increase the viscosity of the liquid composition thereby forming a three-dimensional basic pattern (paragraph 62);

imparting an electromagnetic wave stimulus to the formed three-dimensional basic pattern to form a pattern (paragraph 130); wherein Sato discloses that two or more of the stimuli may be combined (paragraph 133); and

ejecting a second liquid composition onto the pattern (paragraph 49).

While Sato does disclose a block polymer of polyoxyalkylene repeating structure (paragraph 65), Sato does not disclose a polyalkenyl ether repeating structure.

However, Nakazawa, which teaches a block polymer compound, discloses a block polymer compound useful as various kinds of functional materials (paragraph 1), which is preferably comprised of repeating units of either polyalkenyl ether, not polyoxyalkylene (paragraph 14).

Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have substituted polyoxyalkylene, which is disclosed by Sato, for polyalkenyl ether since Nakazawa states that a block copolymer containing a repeating unit of polyalkenyl ether is preferable in terms of dispersion and easiness in formation of

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a polymer micelle and easiness in incorporation of a functional substance, while polyoxyalkylene is not preferable (paragraph 14).

Furthermore, Sato does not disclose that the second liquid composition has a different color than the first liquid composition.

In a similar field of endeavor, however, Okuda discloses matrix-array heads corresponding to the four ink colors of yellow, magenta, cyan and black having ejectors for each color arranged in parallel on the carriage. Dots of the four colors are superimposed on the sheet of recording paper (paragraph 147).

It would have been obvious to combine the process disclosed by Kabushiki in view of Sato with the step disclosed by Okuda since it allowed for full-color images to be recorded (Okuda, paragraph 147).

2. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Nakazawa in view of Okuda as applied to claim 16 above and in further view of US Patent Application 2005/0027037 (Suda hereinafter).

**Regarding claim 18**, Sato discloses that a water-based liquid composition and an oil-based liquid composition may both be used (paragraph 119).

However, Sato does not disclose that wherein the liquid compositions having different colors are a water-based liquid composition and an oil-based liquid composition.

Suda, however, discloses the use of water and oil based as a means for increasing viscosity (paragraph 173).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a water-based liquid composition for one color and an oil-based liquid composition for the other color, since it allows for a means of increasing viscosity (Suda, paragraph 173).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YANA BELYAEV whose telephone number is (571)270-7662. The examiner can normally be reached on M-Th 8:30am - 6pm; F 8:30 am- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Y. B./

Examiner, Art Unit 1791

/Steven P. Griffin/

Supervisory Patent Examiner, Art  
Unit 1791